

Sub E5
1: (amended) An interactive device for use in conjunction with images displayed on a computer display apparatus and a fixed surface, comprising:

a stylus including a longitudinal axis, a lateral axis, and a vertical axis;

[means] a mechanical linkage [supportable on] coupled to a fixed surface and coupled to said stylus for supporting said stylus while allowing at least [a plurality of] five degrees of freedom in the motion of said stylus, said [means for] mechanical linkage providing a user the ability to manipulate the orientation and location of said stylus in three-dimensional space, said five degrees of freedom including rotation about said longitudinal axis, revolution about its lateral axis, turning about its vertical axis, and spatial movement along at least two other axes relative to said fixed surface, said rotation, revolution and turning degrees of freedom providing said orientation of said stylus, and said spatial movement degrees of freedom providing said location of said stylus; and

means for producing an interactive stylus locative signal which on command by a user is responsive to and corresponding with the position and movement of the stylus at any point in time during its normal operation, said stylus locative signal providing information about the orientation, [and] location, and movement of said stylus for use by a computer display apparatus to manipulate images displayed by said computer display apparatus in accordance with said orientation, location, and movement of said stylus.

Please cancel claim 2 without prejudice.

C 2
3. (amended) A device as recited in ~~claim 1 [2]~~ wherein said stylus locative signal means is in communication with said mechanical linkage.

4. A device as recited in Claim 1 wherein said stylus locative signal means is in communication with said stylus.

5. A device as recited in Claim 1 further comprising:

a remote unit having switch capable of being in an on state and an off state; and command means triggered by said switch when said switch is in its on state for generating a command signal for receipt by a computer.

6. A device as recited in Claim 5 wherein said remote unit is a foot pedal unit.

Sub E7
7. (amended) A device as recited in Claim [2] 1 wherein said mechanical linkage includes at least three joints.

C 3
8. (amended) A device as recited in Claim [2] 1 wherein said mechanical linkage includes three individual components.

9. A device as recited in Claim 1 further comprising means for providing resistance to the motion of the stylus.

10. A device as recited in Claim 1 wherein said stylus has pencil-like configuration which can be manually manipulated.

11. (amended) A device as recited in Claim 1 further comprising:

feedback means for generating a force on said stylus in at least one of said at least five degrees of freedom [by said support means] in response to force signals provided to said device, said force signals correlated to information displayed on computer display apparatus.

12. (amended) A method for interactively interfacing a user and a computer display apparatus, comprising the steps of:

providing a stylus including a longitudinal axis, a lateral axis and a vertical axis;

coupling to said stylus a [support apparatus supportable on] mechanical linkage coupled to a fixed surface for supporting said stylus while allowing at least [a plurality of] five degrees of freedom in the motion of said stylus, said [support apparatus] mechanical linkage for providing a user the ability to manipulate the orientation and location of said stylus in three-dimensional space, said at least five degrees of freedom including rotation of said stylus about its longitudinal axis, revolution of said stylus about its lateral axis, turning of said stylus about its vertical axis, and spatial movement of said stylus along at least two other axes relative to said fixed surface, said rotation, revolution and turning degrees of freedom providing said orientation of said stylus, and said translation degrees of freedom providing said location of said stylus; and

providing means for producing an interactive stylus locative signal which on command by a user is responsive to and corresponding with the position and movement of the stylus at any point in time during its normal operation, said stylus locative signal providing information about the orientation and location of said stylus for use by a computer display apparatus to position and move an object displayed by said computer display apparatus in accordance with the location, orientation, and movement of said stylus.

Please cancel claim 13.

14. A method as recited in Claim 13 wherein said stylus locative signal means is in communication with said mechanical linkage.

15. (amended) A method as recited in Claim [12] 13 wherein said stylus locative signal means is in communication with said stylus.

C 5 sub D, cont.

16. (amended) A method as recited in Claim 12] 13 further comprising the steps of:

providing a remote unit having switch capable of being in an on state and an off state; and

providing a command signal generator triggered by said switch when said switch is in its on state for generating a command signal for receipt by a computer.

17. A method as recited in Claim 16 wherein said remote unit is a foot pedal unit.

18. A method as recited in Claim 13 wherein said mechanical linkage includes three individual components.

19. A method as recited in Claim 13 wherein said mechanical linkage includes at least three joints.

20. (amended) A method as recited in Claim [12] 13 further comprising means for providing resistance to the motion of the stylus.

21. (amended) A method as recited in Claim [12] 13 wherein said stylus has pencil-like configuration which can be manually manipulated.

22. (amended) A [device] method as recited in Claim [12] 13 further comprising the steps of:

providing feedback means for generating force [by said support apparatus] on said stylus in at least one of said at least five degrees of freedom in response to force signals provided to said [device] mechanical linkage, said force signals correlated to information displayed on computer display apparatus.

Please cancel claims 27 and 28 without prejudice.

29. (amended) A device as recited in Claim 1 wherein said [means supportable on a fixed surface and coupled to said stylus] mechanical linkage provides said stylus with six degrees of freedom.

~~See E11~~ 30. (amended) A method as recited in Claim [12] 13 wherein said [support apparatus] mechanical linkage provides said stylus with six degrees of freedom.

31. (amended) A [method] device as recited in claim 27 wherein said means supportable on a fixed surface and coupled to said stylus provides the ability to track said motion capabilities of said stylus by appropriately placed sensors.

32. A method as recited in Claim 28 wherein said means supportable on a fixed surface and coupled to said stylus provides the ability to track said motion capabilities of said stylus by appropriately placed sensors.

Please add the following claims:

33. (new) A device as recited in claim 1 wherein said images displayed by said computer display apparatus include an object that is positioned and moved in accordance with the position and movement of said stylus.

Sub E-3 34. (new) A device as recited in claim 11 wherein said feedback means generates a force on said stylus by generating a force on a joint included in said mechanical linkage in response to said force signals.

35. (new) An interactive device for use in conjunction with a computer display apparatus and a fixed surface, comprising:

a stylus;

a mechanical arm linkage coupled to a fixed surface and coupled to said stylus for supporting said stylus while allowing a plurality of degrees of freedom in the motion of said stylus, said mechanical arm linkage providing a user the ability to manipulate the orientation and location of said stylus in three-dimensional space;

C 8
Sub D 2 a sensor coupled to said mechanical arm linkage for sensing said orientation and said location of said stylus and providing a stylus locative signal to a computer display apparatus, said stylus locative signal providing information about said orientation and location of said stylus for use by said computer display apparatus to manipulate an object displayed by said computer display apparatus in accordance with said orientation and location of said stylus; and

a transducer coupled to said mechanical arm linkage for providing a force along at least one of said plurality of degrees of freedom of said stylus in response to a stylus force signal generated by said computer display apparatus.

36. (new) An interactive device as recited in claim 35 wherein said mechanical arm linkage includes two linkages and three joints.

Sub E-4 37. (new) An interactive device as recited in claim 35 wherein said transducer provides said force in conjunction with movement of said object displayed on said computer display apparatus.

16 38. (new) An interactive device as recited in claim 35 wherein said mechanical arm linkage allows six degrees of freedom in the motion of said stylus.